

# XQP3... OPEN LOOP 2/3 WAY PROPORTIONAL PRESSURE COMPENSATED FLOW REGULATORS



The open loop proportional flow regulator is 2 and 3 way compensated with priority function. It is designed to regulate flow in proportion to an applied electrical current (REM or SE3AN power amplifier). Flow regulation is load independent - B port. Load compensation is achieved by a spool compensator which holds the pressure drop constant across the proportional spool.

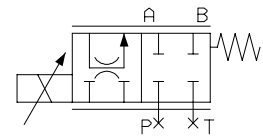
Valves are available in the following versions (see hydraulic symbol):

- 2 way pressure compensated - 3 way pressure compensated with priority function.
- 3 way pressure compensated with priority and venting function.

<b>XQP3...</b>	
STANDARD CONNECTORS	CH. I PAGE 20
"D15P" PROPORT. SOLENOIDS	CH. VIII PAGE 23
REMSRA...	CH. IX PAGE 4
BC06XQP3...	CH. VII PAGE 13

## ORDERING CODE

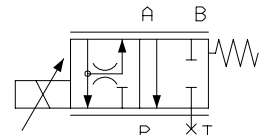
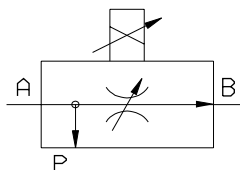
<b>XQP</b>	Open loop 2/3 way proportional compensated flow regulator
<b>3</b>	CETOP 3/NG6
<b>C</b>	2/3 way compensation with priority function
<b>3</b>	3 way version (standard) For to obtain 2-way version the P line must be closed on the subplate
<b>*</b>	Nominal flow rates <b>F</b> = 6 l/min <b>G</b> = 12 l/min <b>H</b> = 22 l/min <b>I</b> = 32 l/min <b>L</b> = 40 l/min
<b>*</b>	<b>S</b> = without decompression <b>D</b> = with decompression
<b>*</b>	Max. current to solenoid <b>E</b> = 2.35 A <b>F</b> = 1.76 A <b>G</b> = 0.88 A
<b>**</b>	Variant (*): <b>S1</b> = No variant <b>P2</b> = Rotary emergency <b>R5</b> = Rotary emergency 180° <b>SV</b> = Viton
<b>2</b>	Serial No.



• In order to obtain the 2 way pressure compensated version the cavities P and T have be closed on the subplate.

## HYDRAULIC SYMBOLS

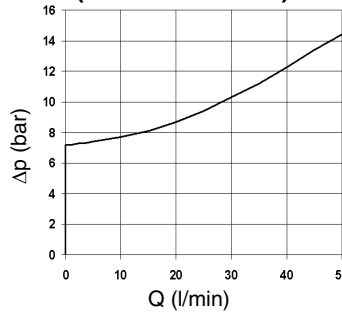
### SIMPLIFIED TYPE



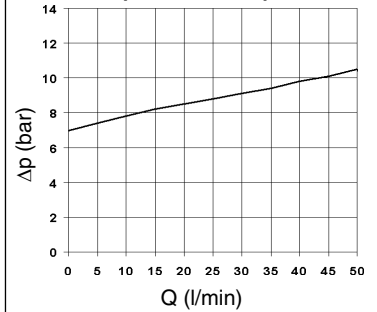
• In order to obtain the 3 way pressure compensated version the cavity T have be closed on the subplate.

## DIAGRAMS

**ΔP - FLOW RATE A → B (WITH 5 l/min TO P)**

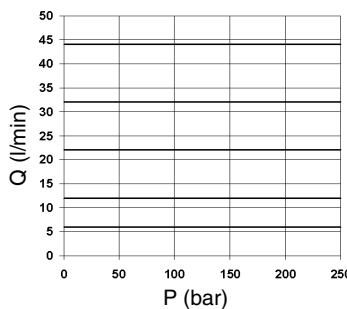


**ΔP - SECONDARY LINE FLOW (A → P FREE)**



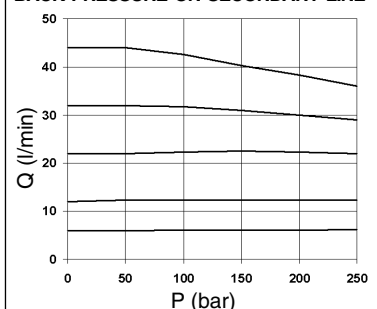
### FLOW RATE

**BACK PRESSURE ON PRIORITY LINE**

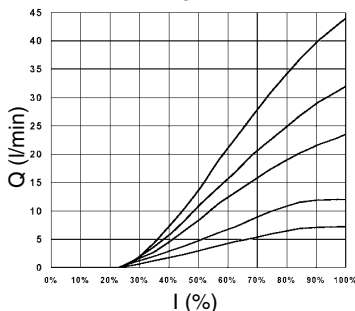


### FLOW RATE

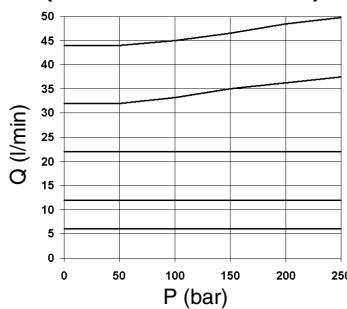
**BACK PRESSURE ON SECONDARY LINE**



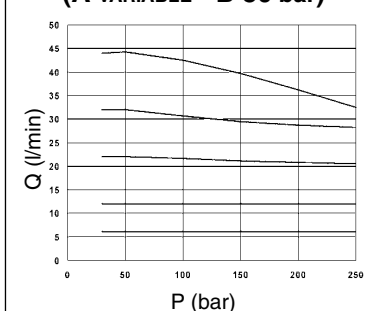
**INPUT SIGNAL FLOW**



**2 WAY COMPENSATION (A 270 bar - B VARIABLE)**



**2 WAY COMPENSATION (A VARIABLE - B 30 bar)**



(\* All variants are considered without connectors. The connectors must be order separately. See Ch. I Page 20

The fluid used is a mineral based oil with a viscosity of 46 mm<sup>2</sup>/s at 40°C. The tests have been carried out at with a fluid of a 40°C.

# XQP3... OPEN LOOP 2/3 WAY PROPORTIONAL PRESSURE COMPENSATED FLOW REGULATORS



## OPERATING SPECIFICATIONS

Max. operat. pressure ports A/B /P see note (*) With T port blocked on subplate	250 bar		
Regulated flow rate	6 / 12 / 22 / 32 / 40 l/min		
Decompression drain flow	max 0,7 l/min		
Relative duty cycle	Continuous 100% ED		
Type of protection (in relation to the connector used)	IP 65		
Flow rate gain	See diagram "Input signal flow"		
Fluid viscosity	10 ÷ 500 mm <sup>2</sup> /s		
Fluid temperature	-20°C ÷ 75°C		
Ambient temperature	-20°C ÷ 70°C		
Max. contamination level	from class 7 to 9 in accordance with NAS 1638 with filter β <sub>10</sub> ≥ 75		
Weight	1,7 Kg		

Max. current	<b>2.33A</b>	<b>1.76 A</b>	<b>0.88 A</b>
Solenoid coil resistance at 25°C (77°F)	2.25 Ohm	4.0 Ohm	16.0 Ohm
Hysteresis with Δp 7 bar	≤5%	<5%	<8%
Response to step Δp = 7 bar			
0 ÷ 100%	32 ms	40 ms	85 ms
100% ÷ 0	33 ms	33 ms	33 ms
Frequency response -3db (Input signal 50% ± 25% Vmax.)	22Hz	22Hz	12Hz

(\*) Pressure dynamic allowed for 2 millions of cycles

**Operating specifications are valid for fluids with 46 mm<sup>2</sup>/s viscosity at 40°C, using specified ARON electronic control units.**

**Performance data are carried out using the specified Aron power amplifier SE.3.AN... powered to 24V.**

## AMPLIFIER UNIT AND CONTROL

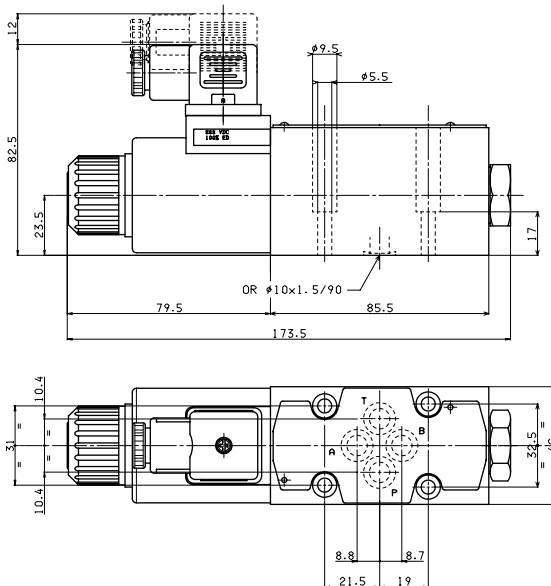
### REMSRA.\*.\*...

Electronic card for control single proportional solenoid valve.  
Recommended dither frequency 100 Hz.

### SE3AN2100...

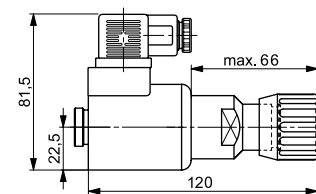
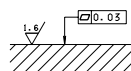
Electronic card format EUROCARD for control single proportional solenoid valve

## OVERALL DIMENSIONS

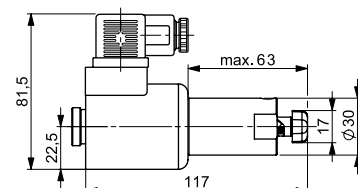


Fixing screws UNI 5931 M5x25  
(min. 8.8 material screws are recommended)  
Tightening torque 4 ÷ 5 Nm / 0.4 ÷ 0.5 Kgm

Support plane specifications



**P2 Rotary emergency (1)**

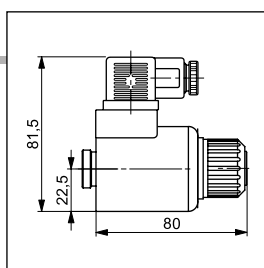


**R5 Rotary emergency 180° (2)**

(1) **P2** - Adjustable hand emergency.

(2) **R5** - Two positions hand emergency. The regulated flow with emergency actuated can be less than nominal value.

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## "D15P" PROPORTIONAL SOLENOIDS



Type of protection (in relation to connector used)	IP 66
Duty cycle	100% ED
Insulation class wire	H
Weight (coil)	0,354 Kg
Weight (solenoid)	0,608 Kg

ETD15P - 01/2002/e